6.0 PROCESS MANAGEMENT

6.1 Product and Service Processes

6.1a Design Process

6.1a(1) As indicated by ADOT's mission statement, ADOT has two primary functions: to develop and operate the transportation infrastructure and to license and register the users of the transportation infrastructure.

To develop and operate the transportation infrastructure, ITD employs the Project Development Process depicted in Figure 6-1.

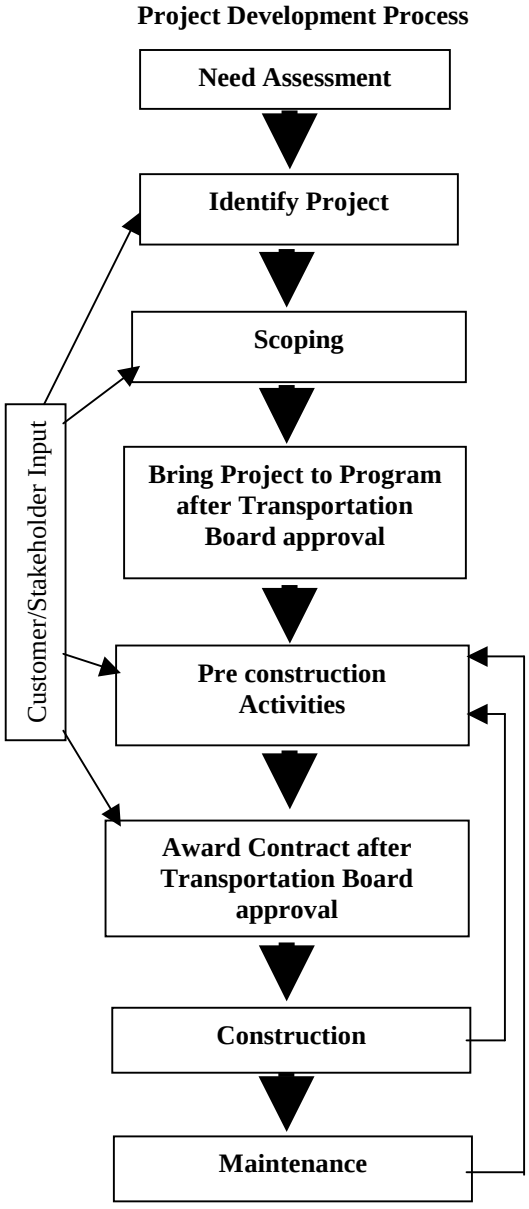

Figure 6-1

Customer and stakeholder input occurs during the Needs Assessment phase of the development process. Needs are identified and submitted to ADOT Districts, Council of Governments, Metropolitan Planning Organizations, and the Transportation Planning Division.

The Scoping Phase determines what, how, and when a project will be done; who will do it; and how much it will cost.

Maintenance and Construction staff, citizens, and stakeholders all have input at the pre-construction activities phase which includes design, right-of-way acquisition, environmental clearance, utilities clearance, and joint funding.

Customers and stakeholders have input again at the Transportation Board approval phase through Transportation Board members who represent them in various areas of the State.

All other product and service design is accomplished using the process model illustrated in Figure 6-2.

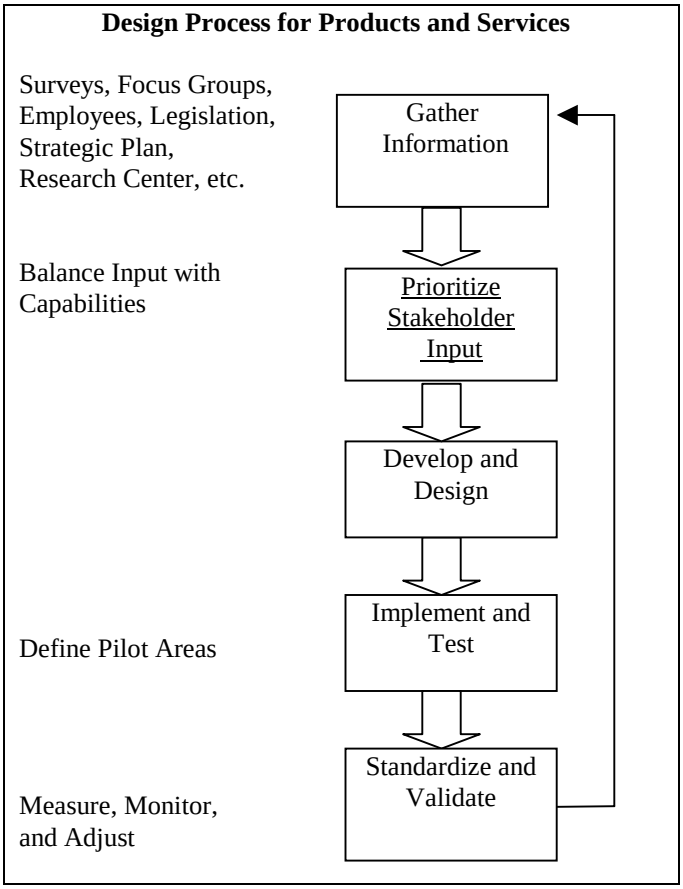

Figure 6-2

6.1a(2) ADOT believes stakeholder involvement is a critical step in the development/operation of the transportation infrastructure and in the licensing/registering process. Therefore, ADOT is committed to involving stakeholders early in each process.

ADOT utilizes a variety of methods to obtain information from key stakeholders to determine customer requirements and incorporate them into the design of products and services. Some of the methods are: an environmental analysis of strengths, weaknesses, opportunities, and threats (SWOT), a Winward-Cooley Customer Survey, focus groups, town halls, and gatherings (Note: A "Gathering" is a coalition of Regional Planning Area Representatives and ADOT staff. To-date, 20 official "Gatherings" have been conducted.) These have led to the development of the Intelligent Transportation System and the significant changes that are occurring in licensing, registration, transportation infrastructure, and revenue management. (See satisfaction results in Figure 7-1.)

ADOT develops a Five-Year Transportation Construction Program for highways and airports under the "Priority Programming Law." The "Priority Programming Law" in Arizona Revised Statutes 28-111, establishes a process and guidelines used by the State Transportation Board in prioritizing road improvements and projects. This law is designed to establish a program that is responsive to citizens' needs throughout the state while remaining free from special interest pressure. The program is updated annually and provides a method for prioritizing projects and allowing Arizona citizens to "have a say" in what is selected. (See Figure 6-3.)

Changing customer/market requirements are incorporated into the "Project Development Process" at several points.

Priority Programming Process

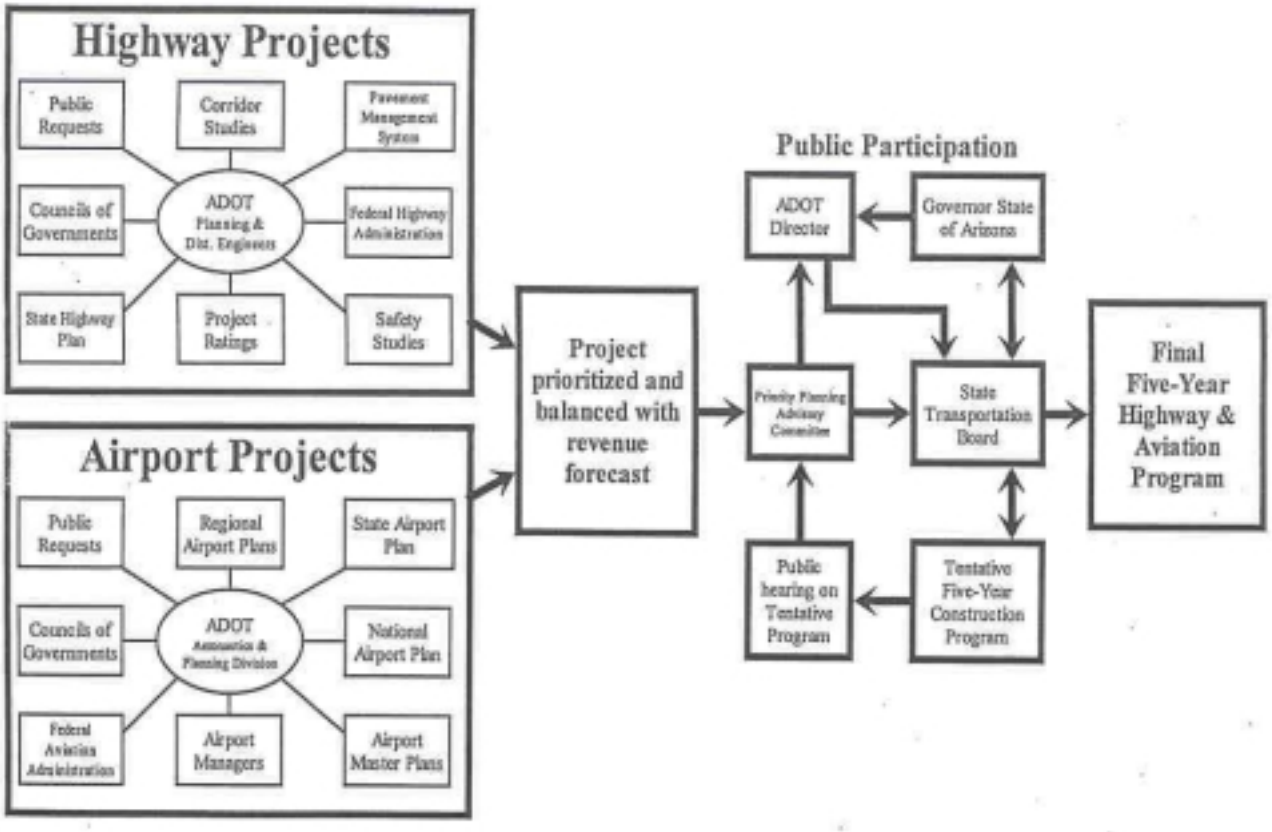

Figure 6-3

During the need assessment stage, the Transportation Planning Division (TPD) works with the Council of Governments and Metropolitan Planning Organizations to ensure the citizens of those respective regions are able to provide input into the process. Each Metropolitan Planning Organization and Council of Governments provides a regional forum for analysis, discussion, and resolution of issues relating to the areas of transportation and regional development. These regional forums provide input regarding the effects on local governments and regions on transportation planning and priority programming. During the design stage, Maintenance Planning is consulted to ensure that future market requirements are considered.

Changing customer/market requirements are incorporated into the licensing process in several different ways and are dependent on available resources. How a changing customer/market requirement is handled also depends on the source of the requested change. Twenty-two examples of customer-related data and feedback methods are listed in Category 3, Customer and Market Knowledge.

6.1a(3) New technology is incorporated into products, and services processes by collecting information from a variety of sources and translating that information into designs that will meet the needs of the customer as well as those of the organization. Input is obtained from many sources. These include surveys, customers, legal requirements as set forth in statute, goals and objectives from the agency's strategic plan, employee improvement teams, industry councils, advisory committees, public town hall sessions, phone calls, public forums, Arizona Transportation Research Center, and partnering with stakeholders, suppliers, and customers. Process owners use the customer input to prioritize the development of processes within the scope of the strategic plan and the agency mission.

The Arizona Transportation Research Center is another example of how ADOT evaluates new products and supplies prior to purchasing quantities for use on the roads and highways. The research staff, along with the suppliers, end users, product designers, and sometimes competitive suppliers meet to evaluate materials and determine if they meet the specifications determined by ADOT and Federal requirements for the job. The outcome of these Product Evaluation Committees determines whether or not a product will make it to the "product list" for future purchases by the Department. Anyone, internal or external to ADOT, can ask that a product be evaluated. There is an appeal process for disputes and the whole process is evaluated at the end to see if the process meets expectations and business requirements. ADOT process owners measure response time (to the request for evaluation), percent of product approvals/rejects/appeals, and results of appeals to ensure integrity of the process.

Yet another design process is the way ADOT invites input on new technologies, products and services through the purchasing process. "Requests for Proposals" are sent to solicit information at-large about products, technologies, and services available. This method allows ADOT to publish requirements to solicit new and creative recommendations that meet business needs. Purchasing staff attends seminars and national events to keep current on marketing trends, new technologies, and product development. ADOT received national recognition on a 20/20 Broadcast with the use of new technology: shredded rubber from old tires for resurfacing roadways. The Department is often the benchmark for others when it comes to new technologies.

The introduction of new technology into the development and operation of the transportation infrastructure is conceived at the program level. However, the integration of new technology must be considered at each stage of the Project Development Process, and the functional area that will be utilizing the technology must determine the feasibility of using any new technology. Funding for new technology is obtained at the program level; therefore, to maintain business continuity, a high degree of coordination is required when introducing new technology into the development and operation of the transportation infrastructure.

6.1a(4) and (5) ADOT is committed to maintaining the highest quality while pursuing strategic initiatives regarding licensing. A Quality Assurance unit does an independent check of transactions to ensure the work performed by third parties meets the requirements of the citizens of Arizona. In addition, MVD has instituted a rigorous public awareness program to increase usage of the Internet option. The education program has explained the Internet option via public service announcements, commercials, news releases and inserts in customer registration renewal mailers.

Part of the Project Development Process is the Priority Programming Process (See Figure 6-3.) During the earlier stages of the Priority Programming Process inputs from the public, corridor studies, safety studies, and the pavement management system, among others are considered to prioritize and balance each project with the revenue forecast. Once the project is prioritized and balanced with the revenue forecast, there is more public participation prior to the project's inclusion in the final Five-year Program. By including these inputs early in the design phase of the process, maximum value is attained.

In addition, the Maintenance and Construction sections have input into the Project Development Process during the pre-construction design phase as a way to anticipate

construction and maintenance problems early in the process.

6.1a(6) When introducing new types of services and products, ADOT establishes pilot programs to measure the impact. Pilots have been used for privatization and cross-training efforts, incentive programs, and collaborative training techniques to determine the impact of the program prior to full agency-wide deployment.

All designs and changes to existing services and products are based on a continuous improvement process, but the process always begins with the collection of information from relevant sources. The process emerges as part of a team effort, sometimes in formal partnering sessions or through the use of cross-functional teams. The goal is always to ensure that customers and internal experts can work together to develop the "best" outcomes that meet needs while complying with relevant legislative mandates. Focusing on customer needs and identifying areas of previous customer dissatisfaction helps ensure new products and services are real improvements.

ADOT uses the Product Evaluation Process to interface with industry experts and suppliers and to get specifications updated to allow greater competition in the biding process. There are several subcontractors established including materials, traffic, maintenance, proprietary structural elements, and pipe subcommittees.

6.1b Production/Delivery Processes

6.1b(1) ADOT's key products and services are illustrated in Figure 6-4. Key performance measurements are created and monitored at every level of the agency. During the creation of the performance measures, care is taken to ensure that performance measures are in alignment with ADOT's mission. To ensure alignment at every level of the agency, four questions are addressed:

1. Does the performance measure align with the strategic plan?

2. Is the performance measure important to the customer?

3. Is the performance measure important to management?

4. Can we collect the data?

Performance measures that are determined to be in alignment with the strategic plan are important to the customer, are important to management, and whose data can be collected, are formally added to the ADOT Strategic Action Plan. Once included in the ADOT Strategic Plan, each performance measure is assigned an owner/sponsor who is responsible for monitoring the action plan steps and progress toward the accomplishment of the objective. (See Figure 6-4.)

At the agency level, eleven key performance measurements have been identified as being important to determining our progress toward our agency goals. (See Figure 2-1.)

6.1b(2) To ensure key performance requirements are met, ADOT conducts a three-tiered, comprehensive monitoring of the key performance measures. The three tiers of monitoring occur at the 1) Organization level; 2) Division level, and 3) Department level. At the organization level, the owner/sponsor reports the status of their performance measure on a monthly basis to respective division director. Successes and failures for each measure are discussed and changes made as necessary. At the division level the division director and senior managers review performance measures on a quarterly basis. Based on the outcome of this review the division director provides an update to the operations team twice per year. At the Department level, in addition to the review performed at the monthly operations meeting, goals and measures are assessed on a monthly basis and progress is reported to the Governor's office.

Multi-level reviews are to assess the progress being made toward meeting the goal/objective. If a performance measure is not on track, an analysis is performed on the measure to pinpoint the problem. Problems and solutions are identified as early in the process as possible so that necessary changes can be made. A typical change may be to update an action plan to include more accurate information.

Key Products and Services

Key Processes	Performance Requirements	Measures	Standards	Control Strategies
Develop and operate the transportation infrastructure	Increase Statewide travel lane miles	Number of statewide travel lanes open to traffic	17,770 lane miles	Accelerate program delivery monitoring
	Increase travel lane miles open to traffic in the Phoenix District	Number of statewide travel lanes open to traffic in the Phoenix District	1,833 lane miles	Accelerate program delivery
	Award construction dollars	Total program dollars for awarded projects v. planned program dollars	$701 million	
License and register	Maintain customer visit time	Customer visit time	23 minutes	Training clear and precise procedures
	Ensure timely customer service	Customers served in 15 minutes or less	15 minutes or less	Training clear and precise procedures
	Increase Internet usage	Cumulative Internet transactions	30,000 trans per month avg	Advertising Informational inserts
	Ensure customer satisfaction	Monthly customer satisfaction results	91% rate overall satisfaction as excellent or good	Training feedback
	Maximize use of MVD call centers	Number of calls - average telephone wait time	2,050,000 1.8 minutes	Training Attain/Maintain a full staff
	Minimize the days to process an aeronautics application	Days to process	3 days	
	Constituent Response	Days to process	10 days	Follow up action process developed and implemented

Figure 6-4

6.1b(3) The key performance measures/indicators are derived from a variety of sources and depend in good part on the type of measurement. Two possible sources of key performance measures are customer surveys and Governor requests. For example, customers have stated their desire for shorter visit times in MVD field offices. As a result, ADOT determined that the outcome measure of average customer total visit time and the efficiency measure of percent of customers waiting for 15 minutes or less, would best gauge our progress toward meeting this customer desire. Control strategies and key performance measures are shown in Figure 6-4.

6.1b(4) Each key process has its own set of inspections or process checks. In ITD, all materials supplied by external vendors are sampled and tested prior to, during, and after each job. Every concrete pour is inspected to see that it meets specifications. Aggregates undergo stringent compliance testing where they are measured, weighed, and checked for compaction before the pavement is accepted. In order to control the cost of quality and the cost of testing, ADOT operates its own material testing laboratories statewide.

Internal audits are performed on key processes to ensure they are intact and that all aspects of the job are being monitored, documented and performed to specifications. Reports are issued with corrections identified, and quarterly follow up reports are issued until corrections are made.

MVD randomly monitors phone conversations with the public at the Call Center to verify performance and quality assurance of this key process. MVD also deploys a

"mystery shopper" to evaluate customer services in the MVD field offices.

6.1b(5) Production and delivery processes are improved by five operating Incentive Teams and by work teams using process improvement strategies.

In ITD the Maintenance Incentive Team receives incentive pay for improving 21 production activities that are performed on a regular basis. All process improvements are shared in a monthly written report and they are discussed in a meeting of the statewide Incentive Team Representatives every month. The process improvements result in an average of 21 to 28 percent reduction in the cost of materials, labor, and equipment for the Department.

Other production processes are discussed and improved at the operations meetings where progress toward the strategic plan objectives is discussed. When shortfalls occur, or negative trends appear, the productivity processes are checked and improved by process owners to get on track with the anticipated outcomes. This methodology is used at many levels throughout the Department.

6.2 Business Processes

6.2a Business processes

6.2a(1) ADOT has two main business processes that are considered most important to doing business, partnering and privatization. Opportunities for using partnering and/or privatization are varied and can be either internal or external. (See Figure 6-5.)

The business process of partnering has been formally addressed in the creation of the Partnering Office.

Business Processes

Key Processes	Requirements	Measures	Standards	Control Strategies
Partnering	-Increase work efficiency -Maximize program delivery -Build and strengthen relationships	1. Quality 2. Communication 3. Issue resolution 4. Teamwork 5. Schedule	Performance level of 3.0 to 3.4	Jointly develop and identify * Mission/goals * Partnership guidelines * Work roles and responsibilities * Communication, issue resolution and evaluation agreements Objectively measure quality, communication, issue resolution, teamwork, and schedule Create an issue resolution process that: 1) promotes agreements to avoid impasses, and 2) empowers those closest to the work to resolve the issues
MVD third party contractors	-Increase number of Internet transactions -Increase number of electronic delivery transactions -Increase number of third party Level 1 vehicle inspections	-number of Internet transactions -number of electronic delivery transactions -number of third party Level 1 vehicle inspections	-30,000 per month -1.6 million per month -39% of total	-Partner with third parties to maximize the shared resources -Training

Figure 6-5

Partnering is a formal process for establishing ethical agreements and productive working relationships. The partnering process is used to develop and sustain collaborative teamwork. The Partnering Office supports partnering in three business relationships: project partnering, public partnering and internal partnering. Project partnering is among and between ADOT and contractors, public partnering is among and between public agencies, and internal partnering is between work units within ADOT. Partnering has virtually eliminated arbitration and litigation costs.

Privatization is a business process that involves contracting for the services of professionals outside of ADOT for the purpose of more efficiently meeting its mission. As a state agency, ADOT is required to work within the Arizona Procurement Code. Working within the Procurement Code promotes fair, open and equitable competitive opportunities for vendors through the use of bids and/or proposals. In some situations, using competitive bids/proposals is too time-consuming to be efficient. In those situations, ADOT has worked with the Legislature to enact legislation that enables ADOT to conduct business outside the confines of the Procurement Code. ADOT currently uses contractors that are exempt from the Procurement Code to perform 100% of construction and 90% of the design work.

6.2a(2),(3), and (4) Partnering has emerged as a process, and adopted into its culture, whereby ADOT and its partners:

- jointly solve problems
- increase work efficiency
- improve project development and delivery process
- maximize program delivery
- provide services that exceed customer expectations
- develop innovative products
- build and strengthen relationships, and
- enhance work processes, plans and functions.

One advantage of the partnering team concept can be seen in the issue resolution process. An issue resolution process that has been agreed upon by both parties promotes agreements to avoid impasses and empowers those closest to the work to resolve the issues.

6.2a(5) An integral part of partnering, the Partnering Evaluation Program, allows the Partnering Program to be self-regulating. One of the key components of partnering is to jointly develop an evaluation agreement between the partners. The evaluation agreement serves two purposes. It defines the expectations of the partners for all parties at the beginning of a project. Subsequent to project completion, the evaluation agreement provides a mechanism for assessing performance. The lessons learned are then collected/shared for future partnering efforts. The Partnering Program gives feedback to contract facilitators to improve their performance at subsequent ADOT partnering sessions.

Contractors are evaluated based on their performance in accordance with the applicable contract. For those contracts that are subject to the procurement code, opportunities for improvement are identified and integrated into subsequent contracts. Contractors hired outside the procurement code are evaluated in accordance with their respective program. For instance, MVD third party contractors are subject to continuous monitoring by a quality assurance unit.

6.2a(6) Partnering efforts are monitored at two levels. First, each partnership evaluates itself by using the Partnering Evaluation Program. Second, performance measures that are linked to ADOT's Strategic Plan are monitored individually and as part of the family of partnerships that have occurred over time. Scores below the standard deviation receive quick intervention by the team to resolve the issues.

6.3 Support Processes

6.3a Support Processes

6.3a(1) ADOT's key support processes and their key requirements are shown in the following list. Key performance requirements for the support processes at ADOT are determined by identifying customer needs. Key operational requirements are tied to the needs of the customers in performing daily work activities, meeting goal and measuring processes.

The Transportation Services Group (TSG) primarily supports ADOT's operational functions. TSG is committed to supporting daily operations and employees.

6.3a(2), (3), (4), and (5) The Transportation Support Group incorporates a variety of tactical planning techniques to link the organization's key functions. Initially, the Transportation Support Group Manager/Chief of Staff scans the environment to determine key requirements for support services. An integral part of this assessment includes meeting with each of the assistant directors/division directors to determine the level of service each division requires from each of the support services. Additionally, internal customer feedback and surveys are considered.

Once customer requirements are determined, the customer requirements are communicated to the senior managers. The senior managers have the responsibility of ensuring the

requirements are met. ADOT's strategic planning process is used to ensure the customer requirements are met. Also, cross-functional teams are generally formed to ensure the action plan is adequate.

See Figure 6-6 for a listing of key support processes with their respective requirements, performance measures, standards, and control strategies.

6.3a(6) Each support function monitors action plans on a day-to-day basis. In addition, there are multi-level reviews of key performance measures. These reviews occur at the Department level, the division level, as well as the organization level.

6.3a(7) Adherence to the strategic plan ensures improvement of the support processes over time. By monitoring progress, compiling performance information, and keeping the action plans on track, the strategic planning process keeps ADOT on track to meet its strategic initiatives.

Support Functions and Processes

Key Processes	Requirements	Measures	Standards
Information Technologies Group	Replace all outdated personal computers and servers	% of PCs/servers replaced	75%
	Maintain the availability of all platforms	% of time mainframe available	99.9%
Human Resources	Reduce number of days to process a hiring list	Number of days to process a hiring list	20 days
Equipment and Facilities Services	Maintain level of overage and obsolete equipment in the ADOT Fleet	% of equipment past replacement criteria	27.9%
	Achieve target cost avoidance savings	Cost avoidance savings	$65,000
	Limit value of over-aged fleet	Value of over-aged fleet	$43.1 million
	Increase the efficiency and effectiveness of the Motor Pool operation	% increase in revenue	100%
	Implement 60% of an electronic billing statement project	% of project complete	60%
Procurement	Purchase equipment, materials and services		
Financial Mgmt Services	Achieve targeted cash balance levels	Year-end cash balance	$273 million
	Achieve targeted RARF cash balance levels	Year-end cash balance	$42 million
	Achieve targeted Aviation cash balance levels	Year-end cash balance	$12 million
	Meet HURF forecasting performance targets	HURF revenue forecast range	+2/-1%
	Meet RARF forecasting performance targets	RARF revenue forecast range	+2/-1%
Training	Implement a competency-based training program for Equipment Services	% of project complete	100%
Safety and Health	Reduce safety incident rate	Safety incident rate	8.65
	Reduce industrial accidents	Number of industrial accidents	13
Arizona Highways Magazine	Increase average paid subscriptions	Average paid subscriptions	360,000

Figure 6-6